

CLAIMS

1. A power management method for controlling data communicated by one or more applications executed on a first device communicating in a wireless communications network, the method comprising:

- 5 monitoring data communicated by at least a first application executed on the first device, wherein the data is communicated over a wireless communication interface between the first device and a second device;
- determining first bandwidth and latency characteristics for the data communicated by at least the first application;
- 10 determining a first power management setting for at least the first application, wherein the first power management setting optimizes data communications between the first device and the second device in accordance with the first bandwidth and latency characteristics; and
- automatically changing power management settings for at least the first
- 15 application to the determined first power management setting, when the first application is communicating over the wireless communication interface.

2. The power management method of claim 1, wherein the step of monitoring data comprises:

- 20 monitoring header information for packets of information included in the data communicated by at least the first application.

3. The power management method of claim 1, wherein in the step of monitoring data comprises:

- 25 monitoring content of the data communicated by at least the first application.

4. The power management method of claim 1, wherein in the step of monitoring data comprises:

- 30 monitoring type of the data communicated by at least the first application.

5. The power management method of claim 1, wherein in the step of monitoring data comprises:

monitoring bandwidth of the data communicated by at least the first
5 application.

6. The power management method of claim 1, wherein the step of determining the first bandwidth and latency characteristics comprises:

determining bandwidth and latency associated with at least the first
10 application based on a history of required bandwidth and latency for the first application, where said history is available from a first source.

7. The power management method of claim 2, wherein the step of determining the first bandwidth and latency characteristics comprises:

15 determining bandwidth and latency associated with at least the first application based on the header information.

8. The power management method of claim 3, wherein the step of determining the first bandwidth and latency characteristics comprises:

20 determining bandwidth and latency associated with at least the first application based on the content of the data communicated by the first application.

9. The power management method of claim 4, wherein the step of determining the first bandwidth and latency characteristics comprises:

25 determining bandwidth and latency associated with at least the first application based on the type of the data communicated by the first application.

10. The power management method of claim 1, wherein the step of determining the first bandwidth and characteristics comprises:

30 determining bandwidth and latency associated with at least the first application based on a heuristic method, wherein the associated bandwidth and

latency are adjusted over one or more time periods based on results obtained from said adjustments over a predetermined time period.

11. An application based power management system comprising:
5 a power management application executed on a first device, wherein the power management application monitors communications interfaces for a plurality of applications in communication with one or more devices in a wireless environment, such that the power management application determines bandwidth and latency characteristics for each of the plurality of applications, and determines
10 respective power management settings for each of the plurality of applications, wherein each respective power management setting optimizes data communicated by each of the applications in accordance with the corresponding bandwidth and latency characteristics.

12. The power management system of claim 11, wherein the power management application automatically changes an older power management setting for an application with a respective power management setting determined for the application, if the respective power management setting is different than the older power management setting.

20 13. The power management system of claim 11, wherein the power management application monitors header information for packets of information included in data communicated by each of the plurality of applications to determine bandwidth and latency characteristics for each of the plurality of
25 applications.

14. The power management system of claim 11, wherein the power management application monitors content of the data communicated by each of the plurality of applications to determine bandwidth and latency characteristics for
30 each of the plurality of applications.

15. The power management system of claim 11, wherein the power management application monitors type of the data communicated by each of the plurality of applications to determine bandwidth and latency characteristics for each of the plurality of applications.

5

16. The power management system of claim 11, wherein the power management application monitors bandwidth of the data communicated by each of the plurality of applications to determine bandwidth and latency characteristics for each of the plurality of applications.

10

17. A method of adjusting communications settings assigned to an application executed on a first device in communication with a second device over a wireless communications connection, the method comprising:

15 determining a first communications setting assigned to the first application;
monitoring at least one of a bandwidth and latency characteristics for the first application to obtain a first result, when the first application communicates with the second device;

determining a second communications settings for the first application based on the first result; and

20 assigning the second communications setting to the first application instead of the first communications setting, if the second setting is different than the first setting.

18. The method of claim 17, wherein the first result is obtained based on the first application's requirements for at least one of the bandwidth and latency characteristics so that the first application can efficiently communicate with the second device.

19. The method of claim 18 further comprising:

assigning the second communications settings so that the latency is decreased, if the first result indicates that the first application is communicating time-sensitive data.

- 5 20. The method of claim 18 further comprising:
 assigning the second communications settings so that the bandwidth is increased, if the first result indicates that the first application needs to communicate a larger volume of data.